



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

CK

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,433	07/10/2003	Nobumitsu Takaoka	16869N-085000US	5607

20350 7590 09/05/2006

TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER

MABINI, MARVIN

ART UNIT PAPER NUMBER

2191

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/618,433

Applicant(s)

TAKAOKA ET AL.

Examiner

Marvin Mabini

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20030710, 20040916.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 8 and 12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 8 is directed to a storage system with communications ports and communication unit. The storage can be expressed as a database, which is non-functional descriptive material. The ports as claimed can cover logical ports, which can be implemented to software alone. The communication unit as claimed can cover a software implementation. Therefore claim 8 is non-statutory since the claim can be software alone.

Claim 12 is directed to a computer related functional program. The claim of management software is claiming software per se, which is not in one of the statutory categories.

If the software is claimed in combination with an appropriate computer readable medium it also must be capable of producing a useful, concrete and tangible result

Art Unit: 2191

when used in a computer system. The "computer readable medium" must be a physical structure, not a signal, which permits the functionality to be realized with the computer.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "said second connection" in lines 5, 9, 10, and 17. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6009466 to Axberg et al (hereinafter "Axberg").

As per claim 1, Axberg discloses a computer management system (see management program – Axberg abstract) having an object computer (see host computer – Axberg column 5 lines 39-40), a storage system (see storage management – Axberg abstract) in which data to be communicated to the object computer is stored (see storage devices – Axberg column 5 lines 18-20), and a management computer (see Axberg figure 1 block 110) that manages the storage system and object computer (see Axberg abstract), wherein: said storage system comprises an acquisition unit (see network class – Axberg column 8 lines 1-4) that acquires (see save and store – Axberg column 7 lines 55-56) first connection information (see objects and management set – Axberg column 8 line 1-4), which contains a communication port identifier (see port class – Axberg column 9 lines 26-30) of said object computer (see Host class– Axberg column 9 lines 31-35; host class is used to defined the host computer), and a communication port identifier assigned to the communication port of said storage system, from said object computer (see Port class – Axberg column 9 lines 26-30); and a communication unit that transmits (see connection class – Axberg column 9 lines 8-9) said first connection information to said management computer (see Host class– Axberg column 9 lines 31-35) and said management computer comprises a communication unit (see network adapter – Axberg column 6 lines 29-34) that receives said first connection information from said storage system (see communicate with other systems – Axberg column 6 line 26-34); and a display that uses an output screen (see the display screen – Axberg column 11 lines 7-10) to visualize connection relationships between said storage system and computer on the basis of said first connection information (see

Art Unit: 2191

management program creates appropriate objects to represent devices – Axberg column 11 lines 34-40).

As per claim 2, Axberg discloses first connection information further contains information representing a communications protocol adopted for data communication between connected communication ports or information representing a state of a communications link between communication ports (see connections objects and SSA protocol – Axberg column 9 line 5-7).

As per claim 3, Axberg discloses the acquisition unit included in said storage system acquires said first connection information when a data communications link is established between the communication ports of said object computer and said storage system respectively (see joins two physical devices – Axberg column 9 lines 10-12).

As per claim 4, Axberg discloses an interconnection device (see all devices connected to a common communication carrier, bus – Axberg column 5 lines 14-16) connected to each of said object computer and said storage system (see various components – Axberg column 5 line 46-47), wherein: said acquisition unit included in said storage system acquires said first connection information (see network class – column 8 lines 1-4) and said second connection information (see NetworkResource class – Axberg column 8 lines 9-12) representing the connection relationships between said object computer and storage system from said interconnection device (see serves as base class for Host, Bus and device class – Axberg column 8 lines 9-12); said

Art Unit: 2191

communication unit included in said storage system transmits both said first connection information and said second connection information to said management computer (see connection class and bus – Axberg column 9 lines 8-9); said communication unit (see Network storage I/O controllers and bus – Axberg column 6 lines 35-37) included in said management computer receives both said first connection information and said second connection information from said storage system (see communication links – Axberg column 6 lines 35-40); and said display included in said management computer (see visual display – Axberg column 7 lines 27-30) uses the output screen thereof to visualize the connection relationships (see Axberg figure 12a-e) among said storage system, said objectcomputer, and said interconnection device on the basis of said first connection information and said second connection information (see interconnecting relationships – Axberg column 7 lines 27-30).

As per claim 5, Axberg discloses an interconnection device (see all devices connected to a common communication carrier, bus – Axberg column 5 lines 14-16) connected to each of said object computer and said storage system (see various components – Axberg column 5 lines 46-47), wherein: said management computer further comprises an acquisition unit (see NetworkImages class – Axberg column 7 lines 51-52) that acquires second connection information (see objects – Axberg column 7 lines 52-55), which represents the connection relationships between said object computer and said storage system, from said interconnection device (see create objects – Axberg column 7 lines 62-63; objects include the computer or host, the storage); and

Art Unit: 2191

said display (see visual display – Axberg column 7 lines 27-30) uses the output screen thereof to visualize the connection relationships (see Axberg figure 12a-e) among said storage system, said object computer, and said interconnection device on the basis of said first connection information and said second connection information (see interconnecting relationships – Axberg column 7 lines 27-30).

As per claim 6, the concept of changing or updating the display when certain data such as change in connection relationship is disclosed by Axberg wherein when the connection relationships between said storage system and said computer have Changed (see connection – Axberg column 13 lines 60-62), said display included in said management computer uses the output screen thereof to visualize (see the screen representation – Axberg column 13 lines 62-65) the connection relationships between said storage system and said object computer on the basis of said first connection information that has been modified (see connection – Axberg column 14 lines 4-7).'

As per claim 7, Axberg discloses said management computer includes a user interface via which a user-entered value is received (see user specifies – Axberg column 12 lines 15-17); and said display included in said management computer uses the output screen (see the display screen – Axberg column 11 lines 7-10) thereof to visualize the connection relationships between said storage system and said object computer on the basis of said entered value and said first connection information (see management program creates appropriate objects to represent devices – Axberg column 11 lines 34-40).



As per claim 8, Axberg discloses, a storage system (see storage management – Axberg abstract) which has a plurality of communication ports and in which data to be communicated to an object computer through one of the communication ports is stored (see storage devices – Axberg column 5 lines 18-20), comprising: an acquisition unit (see network class – Axberg column 8 lines 1-4) that acquires (see save and store – Axberg column 7 lines 55-56) first connection information (see objects and management set – Axberg column 8 lines 1-4), which contains a communication port identifier (see port class – Axberg column 9 lines 26-30) of said object computer (see Host class– Axberg column 9 lines 31-35; host class is used to defined the host computer), and a communication port identifier assigned to the communication port of said storage system, from said object computer (see Port class – Axberg column 9 lines 26-30); and a communication unit that transmits (see connection class – Axberg column 9 lines 8-9) said first connection information to a management computer (see Host class– Axberg column 9 lines 31-35).

As per claim 9, Axberg discloses a management computer (see Axberg figure 1 block 110) for managing an object computer and a storage system in which data to be communicated to the object computer is stored (see Axberg abstract), comprising: a communication unit (see network adapter – Axberg column 6 lines 29-34) that receives (see communicate with other systems – Axberg column 6 lines 26-34), first connection information (see objects – Axberg column 8 lines 1-4) which contains a communication port identifier (see port class – Axberg column 9 lines

Art Unit: 2191

26-30) of said object computer (see Host class– Axberg column 9 lines 31-35; host class is used to defined the host computer), and a communication port identifier assigned to the communication port of said storage system, from said storage system (see port class – Axberg column 9 lines 36-30); and a display that uses an output screen (see the display screen – Axberg column 11 lines 7-10) thereof to visualize connection relationships between said storage system and said computer on the basis of said first connection information (see management program creates appropriate objects to represent devices – Axberg column 11 lines 34-40).

As per claim 10, Axberg discloses a management method (see method – Axberg column 2 lines 30-33) for managing connection relationships between an object computer and a storage system in which data to be communicated to the object computer is stored (see configure network – Axberg column 2 lines 34-36), comprising: acquiring (see network class – Axberg column 8 lines 1-4) first connection information, which contains a communication port identifier (see port class – Axberg column 9 lines 26-30) of said object computer (see Host class– Axberg column 9 lines 31-35; host class is used to defined the host computer), and a communication port identifier assigned to the communication port of said storage system, from said object computer (see Port class – Axberg column 9 lines 26-30; and transmitting said first connection information to a management computer (see connection class – Axberg column 9 lines 8-9).

Art Unit: 2191

As per claim 11, Axberg a management method (see method – Axberg column 2 lines 30-33) for managing connection relationships between an object computer and a storage system in which data to be communicated to the object computer is stored (see configure network – Axberg column 2 lines 34-36), comprising: receiving (see network class – Axberg column 8 lines 1-4) first connection information (see objects – Axberg column 8 lines 1-4), which contains a communication port identifier (see port class – column 9 lines 26-30) of said object computer (see Host class– Axberg column 9 lines 31-35; host class is used to defined the host computer), and a communication port identifier assigned to the communication port of said storage system, from said storage system (see port class – Axberg column 9 lines 36-30; and using an output screen to visualize (see the display screen – Axberg column 11 lines 7-10) the connection relationships between said storage system and said object computer on the basis of said first connection information information (see management program creates appropriate objects to represent devices – Axberg column 11 lines 34-40).

As per claim 12, Axberg discloses a management software (see apparatus – Axberg column 2 lines 30-33) for managing connection relationships between an object computer and a storage system in which data to be communicated to the object computer is stored (see configure network – Axberg column 2 lines 34-36), wherein: said management software allows said storage system to act as means for acquiring (see network adapter – Axberg column 6 lines 29-34; also see communicate with other systems – Axberg column 6 line 26-34) first connection information (see objects – Axberg column 8 line 1-4), which contains a communication port identifier (see port

Art Unit: 2191

class – column 9 lines 26-30) of said object computer (see Host class– Axberg column 9 lines 31-35; host class is used to defined the host computer), and a communication port identifier assigned to the communication port of said storage system, from said object computer (see port class – Axberg column 9 line 36-30); and means for transmitting said first connection information to a management computer (see connection class – Axberg column 9 lines 8-9).

As per claim 13, Axberg discloses a computer readable management program (see management – Axberg column 2 lines 30-33) for managing connection relationships between an object computer and a storage system in which data to be communicated to the object computer is stored (see configure network – Axberg column 2 lines 34-36), said management program comprising: code for receiving (see network adapter – Axberg column 6 lines 29-34; also see communicate with other systems – Axberg column 6 line 26-34) first connection information (see objects and management set – Axberg column 8 line 1-4), which contains a communication port identifier (see port class – Axberg column 9 lines 26-30) of said object computer (see Host class– Axberg column 9 lines 31-35; host class is used to defined the host computer), and a communication port identifier assigned to the communication port of said storage system, from said storage system (see port class – Axberg column 9 line 36-30); and code for using an output screen (see the display screen – Axberg column 11 lines 7-10) to visualize the connection relationships between said storage system and said object computer on the basis of said first connection information (see management program creates appropriate objects to represent devices – Axberg column 11 lines 34-40).

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Publication 2003/0088683, which teaches a storage management computer.

US Patent 6425015, which teaches plurality of communication devices with a plurality of ports and managing the interconnection of devices in the network.

US Patent 6314460, which teaches a storage network and a central manager.

US Patent 6584499, which teaches a management system that supports a graphical user interface.

US Patent 6854035, which teaches a storage area network, a display and management.

US Patent 5515376, which teaches a multi-port bridge and monitoring of ports.

US Patent 7080140, teaches a storage area network and a manager.

US Patent 5257367, teaches a data storage system comprising a plurality of disk drive and host computer.

US Patent 6643748, teaches a storage area network and managed access between clients and shared storage.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marvin Mabini whose telephone number is 571-270-1142. The examiner can normally be reached on Monday-Friday 9AM-5PM.

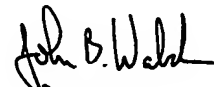
Art Unit: 2191

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz F. Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MM/

Frantz F. Jules  
Supervisory  
Patent Examiner

  
Primary Ex.  
Au 2151